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### Unit 7 Acids- Funsheets

#### Part A: Vocabulary – Answer the following questions.

1. What is Arrhenius's definition of an acid?
2. How can you identify an acid by its formula?
3. Why are acids called proton donors?
4. What is Arrhenius's definition of a base?
5. What is a salt?
6. When an acid reacts with a base, they always produce \_\_\_\_\_ and \_\_\_\_\_.
7. Fill out the following chart:

Properties of Acids	Properties of Bases
<ul style="list-style-type: none"><li>• pH _____ 7</li><li>• Produce _____ ions in water</li><li>• Taste _____</li><li>• React with metals to produce _____</li></ul>	<ul style="list-style-type: none"><li>• pH _____ 7</li><li>• Produce _____ ions in water</li><li>• Taste _____</li><li>• Feel _____</li></ul>
Properties of Both Acids and Bases	
<ul style="list-style-type: none"><li>• They are _____. Meaning they conduct electricity in water.</li><li>• They both turn _____ different colors.</li></ul>	

8. What is the difference between binary acids and ternary acids?
9. What is the only ternary acid that is named like a binary acid?
10. What is the rule for naming binary acids?
11. What is the rule(s) for naming ternary acids?
12. What is a mole?
13. What is molar mass?
14. How do you calculate molar mass?
15. What are the units of molar mass?
16. How many decimal places should molar mass be rounded too?

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**Part B: Acids Nomenclature**- Name the following acids

1.  $\text{H}_2\text{SO}_4$  \_\_\_\_\_
2.  $\text{HClO}_2$  \_\_\_\_\_
3.  $\text{H}_2\text{S}$  \_\_\_\_\_
4.  $\text{HClO}_4$  \_\_\_\_\_
5.  $\text{HF}$  \_\_\_\_\_
6.  $\text{H}_2\text{CO}_3$  \_\_\_\_\_
7.  $\text{HC}_2\text{H}_3\text{O}_2$  \_\_\_\_\_
8.  $\text{H}_2\text{CrO}_4$  \_\_\_\_\_
9.  $\text{HCl}$  \_\_\_\_\_
10.  $\text{H}_2\text{SO}_3$  \_\_\_\_\_
11.  $\text{HNO}_2$  \_\_\_\_\_
12.  $\text{HI}$  \_\_\_\_\_
13.  $\text{H}_3\text{PO}_4$  \_\_\_\_\_
14.  $\text{HClO}_3$  \_\_\_\_\_
15.  $\text{H}_2\text{Cr}_2\text{O}_7$  \_\_\_\_\_
16.  $\text{HNO}_3$  \_\_\_\_\_
17.  $\text{HCN}$  \_\_\_\_\_
18.  $\text{HBr}$  \_\_\_\_\_
19.  $\text{HClO}$  \_\_\_\_\_
20.  $\text{H}_3\text{P}$  \_\_\_\_\_

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**Part C: Acids formulas-** Write the formula for each acid listed below.

1. Carbonic acid \_\_\_\_\_
2. Chlorous acid \_\_\_\_\_
3. Hydroiodic acid \_\_\_\_\_
4. Hydrobromic acid \_\_\_\_\_
5. Sulfurous acid \_\_\_\_\_
6. Phosphoric acid \_\_\_\_\_
7. Hydrosulfuric acid \_\_\_\_\_
8. Hydronitric acid \_\_\_\_\_
9. Phosphorous acid \_\_\_\_\_
10. Hydrofluoric acid \_\_\_\_\_
11. Sulfuric acid \_\_\_\_\_
12. Hypochlorous acid \_\_\_\_\_
13. Acetic acid \_\_\_\_\_
14. Nitrous acid \_\_\_\_\_
15. Perchloric acid \_\_\_\_\_
16. Chromic acid \_\_\_\_\_
17. Nitric acid \_\_\_\_\_
18. Chloric acid \_\_\_\_\_
19. Hydroselenic acid \_\_\_\_\_
20. Hydrocyanic acid \_\_\_\_\_

**Part D Molar Mass-** Determine the molar mass of the following substances. Remember to include units.

- |   |   |
|---|---|
| 1. NaCl _____   | 14. FeCrO <sub>4</sub> _____                              |
| 2. KBr _____  | 15. Pb <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> _____ |
| 3. H <sub>3</sub> P _____                                 | 16. H <sub>2</sub> CO <sub>3</sub> _____                  |
| 4. FeO _____  | 17. P <sub>2</sub> O <sub>5</sub> _____                   |
| 5. Fe <sub>2</sub> O <sub>3</sub> _____                   | 18. Ca(ClO <sub>3</sub> ) <sub>2</sub> _____              |
| 6. CuCl <sub>2</sub> _____                                | 19. (NH <sub>4</sub> ) <sub>2</sub> O _____               |
| 7. NO <sub>2</sub> _____                                  | 20. Zn(HCO <sub>3</sub> ) <sub>2</sub> _____              |
| 8. CO _____   | 21. SnBr <sub>4</sub> _____                               |
| 9. O <sub>2</sub> _____                                   | 22. HClO _____  |
| 10. C <sub>2</sub> H <sub>6</sub> _____                   | 23. KMnO <sub>4</sub> _____                               |
| 11. Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> _____ | 24. (NH <sub>4</sub> ) <sub>3</sub> PO <sub>3</sub> _____ |
| 12. HF _____  | 25. HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub> _____   |
| 13. NaOH _____  | 26. P <sub>2</sub> O <sub>5</sub> _____                   |

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**Part E: Mixed Nomenclature-** Write the name or the formula for the following substances. Indicate if the substance is (I) Ionic, (C) Covalent, or (A) Acid. Determine the molar mass of the substance.

- |   |       |
|---|-------|
| _____ 1) KBr  | _____ |
| _____ 2) H <sub>3</sub> P                                 | _____ |
| _____ 3) FeO  | _____ |
| _____ 4) Fe <sub>2</sub> O <sub>3</sub>                   | _____ |
| _____ 5) CuCl <sub>2</sub>                                | _____ |
| _____ 6) NO <sub>2</sub>                                  | _____ |
| _____ 7) CO   | _____ |
| _____ 8) O <sub>2</sub>                                   | _____ |
| _____ 9) C <sub>2</sub> H <sub>6</sub>                    | _____ |
| _____ 10) Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> | _____ |
| _____ 11) HF  | _____ |
| _____ 12) NaOH  | _____ |
| _____ 13) FeCrO <sub>4</sub>                              | _____ |
| _____ 14) Pb <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> | _____ |
| _____ 15) H <sub>2</sub> CO <sub>3</sub>                  | _____ |
| _____ 16) P <sub>2</sub> O <sub>5</sub>                   | _____ |
| _____ 17) H <sub>2</sub> O                                | _____ |
| _____ 18) Ca(ClO <sub>3</sub> ) <sub>2</sub>              | _____ |
| _____ 19) (NH <sub>4</sub> ) <sub>2</sub> O               | _____ |
| _____ 20) Zn(HCO <sub>3</sub> ) <sub>2</sub>              | _____ |
| _____ 21) SnBr <sub>4</sub>                               | _____ |
| _____ 22) HClO  | _____ |
| _____ 23) Lithium oxide                                   | _____ |
| _____ 24) Aluminum sulfide                                | _____ |
| _____ 25) Perchloric acid                                 | _____ |
| _____ 26) Calcium chloride                                | _____ |
| _____ 27) Lead (IV) oxide                                 | _____ |
| _____ 28) Copper (II) iodide                              | _____ |
| _____ 29) Hydroiodic acid                                 | _____ |
| _____ 30) Mercury (II) hydroxide                          | _____ |
| _____ 31) Dinitrogen pentoxide                            | _____ |
| _____ 32) Carbon tetrahydride                             | _____ |
| _____ 33) Dihydrogen monoxide                             | _____ |
| _____ 34) Ammonium chloride                               | _____ |
| _____ 35) Hydrocyanic acid                                | _____ |
| _____ 36) Sulfurous acid                                  | _____ |
| _____ 37) Copper (I) sulfate                              | _____ |
| _____ 38) Sodium phosphate                                | _____ |
| _____ 39) nickel(II) nitrate                              | _____ |
| _____ 40) Hydrogen gas                                    | _____ |
| _____ 41) lithium chromate                                | _____ |
| _____ 42) potassium permanganate                          | _____ |
| _____ 43) silver perchlorate                              | _____ |
| _____ 44) silver sulfide                                  | _____ |
| _____ 45) nickel(II) acetate                              | _____ |